

**ARIZONA GAME AND FISH DEPARTMENT
HABITAT PARTNERSHIP PROGRAM
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

PROJECT INFORMATION		
Project Title: Mt. Ballard Well		Project No. 07-511
Region/GMU: 30B	HPC: Tucson	
Project Type: Water		
Project Description: Install a solar system to power a submersible pump in an existing well that is currently not being utilized. The water will be pumped into a nearby storage tank/trough to provide year-long water for wildlife in the Mt. Ballard area of the Mule Mountains. Abundant water sources are lacking in the area and current whitetail and mule deer populations have declined significantly from past levels due to lack of water availability and inconsistent weather patterns.		
Wildlife Species to Benefit: Whitetail Deer , Mule Deer		
Possible Funding Partners:		
Implementation Schedule: 2008 Beginning: December, 2007 Completed: February, 2008	NEPA Compliance: (if applicable) Completed: Yes ____ No <u>X</u> ____ Projected Completion Date:	
PROJECT FUNDING		
SBG Funds Requested: \$ 8,000.00		
Cost Share Funds: \$ 1,000.00		
Total Project Costs: \$ 9,000.00		
PARTICIPANT INFORMATION		
Applicant: Brad Fulk (please print) Telephone: 520-803-9210	Address: PO Box 1030 Hereford, AZ 85615	
AGFD Contact and Phone No. (If applicant is not AGFD personnel)		
Coordinated with: Mike Powers - Landowner	Date: 8/30/07	
Applicant's signature:	Date: 8/30/07	

SEND COMPLETED APPLICATIONS TO:

**Game Branch
 2221 W. Greenway Rd.
 Phoenix, AZ 85023
 mdisney@azgfd.gov**

WAS PROJECT PRESENTED TO THE LOCAL HPC? YES _____ NO X____

(revised 7-02-2007)

**HAS PROJECT BEEN SUBMITTED IN PREVIOUS YEARS? NO
IF SO WAS IT FUNDED?**

NEED STATEMENT/PROBLEM ANALYSIS:

The past history of the deer population in the Mt. Ballard area includes both whitetail and mule deer. Local hunters and ranchers have mentioned the area supported some of the highest deer densities in the unit for both species historically. Mule deer numbers have declined sharply over the past 15 years during my tenure in the district and currently only occupy very limited areas of the nearby flats and foothills. The whitetail population has also declined due to recent drought and harsh conditions, but to a lesser extent. However, with normal rainfall which the area received during the past two seasons, the area can be very productive due to its diverse habitat type. The area is very steep and rugged, which limits cattle utilization in the upper stretches of the mountain. These areas support exceptional ground cover and provide excellent whitetail bedding and fawning areas in addition to escape cover.

Foot survey efforts in 1998/99, resulted in 46 whitetail classification on the east, south and west face of the mountain. This area and associated habitat types is categorized as medium density whitetail habitat. Water distribution and availability are less than adequate for whitetail populations in the area. Two natural springs exist on the southeastern side of the mountain. The project site is located on a high saddle at the base of the mountain. This is a natural corridor for big game. The only other available water is the two springs up the canyon. The closest seasonal spring is .5 miles away and the other is another .19 miles above which has been a reliable water source in the past. With the addition of a permeate water on the south side of the mountain, cattle dispersion will occur and allow for improved habitat conditions near and around the two springs, which will benefit wildlife, and provide a second year-long water source in the area.

PROJECT OBJECTIVES:

Provide a permanent water source by installing a submersible solar pump in the existing well to be powered by a solar panel at existing well site. Water will be pumped to a 1550 gallon polyurethane storage tank to be located <250' from the well on an adjacent flat. From the storage tank water will be piped a short distance <100' to a 2'x 2'x 6' water trough. The area around the water trough (60' x 60') will be fence and gated to allow for livestock access seasonally. The system will be designed to allow the pump to automatically turn on and off, depending on the amount of back pressure from the storage tank, this will provide consistent water availability and reduce the maintenance significantly.

PROJECT STRATEGIES:

The Arizona Game and Fish Department funded a water capacity study on the well in the spring of 1999. At that time, the southeastern portion of the state was considered severe regarding the drought index, so results were interpreted as being worst case scenario regarding water production from the well. The report is included and the findings resulted in the following; the capacity of the well is approximately 8179 gallons with a recharge rate of 14.2 gallons/hour. This results in 340.8 gallons produced in 24 hours which is more than enough to supply both wildlife and livestock water to meet their needs.

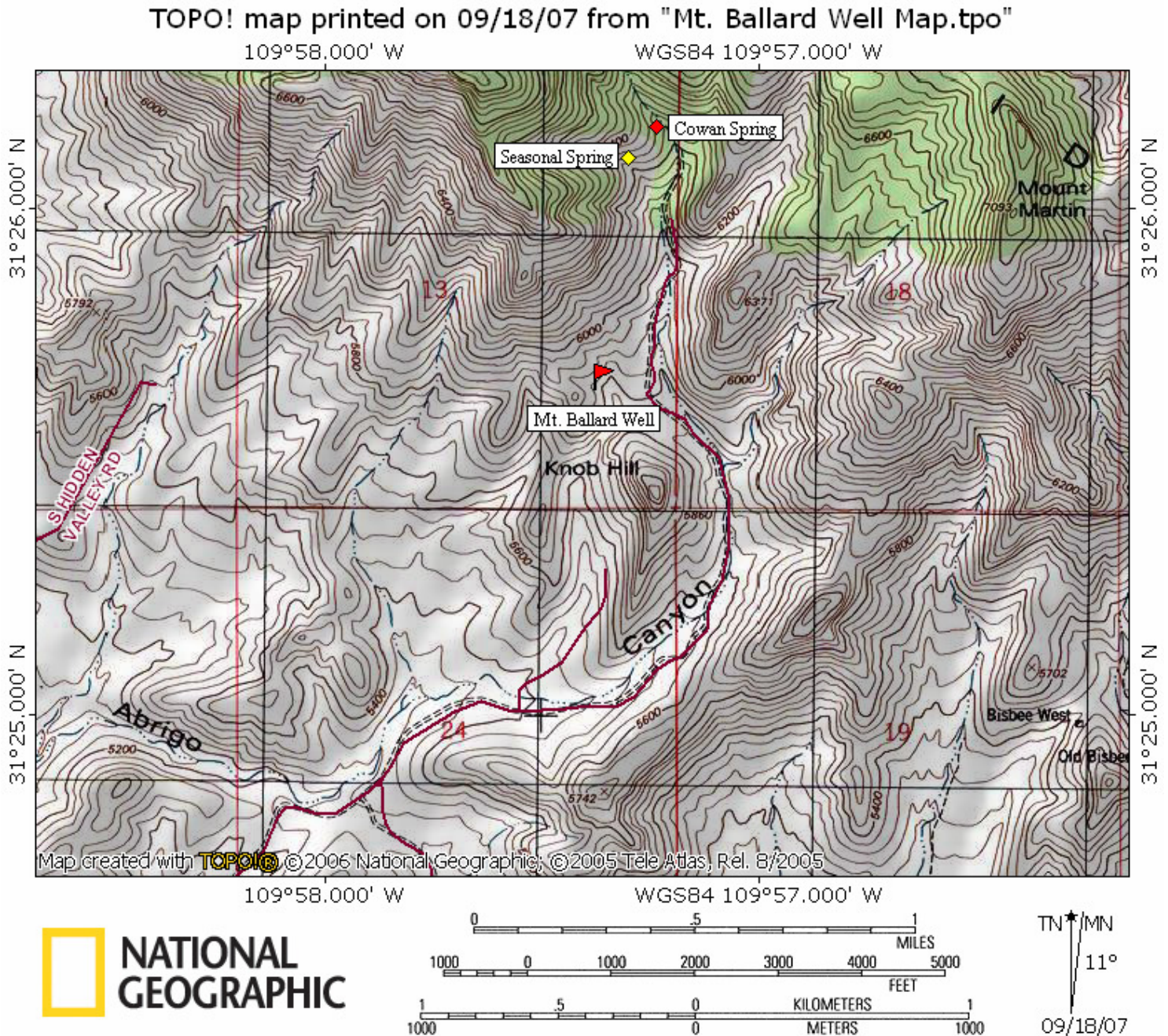
The work will be coordinated by applicant with the landowner who owns the water rights, and the contractor.

Due to the land status, no archeological clearance or NEPA will be required for the project. Very limited soil disturbance will occur, only to level the holding tank and trough. All water lines outside the enclosure will be placed above ground to reduce disturbance and reduce overall cost.

The landowner will be responsible for all materials and labor to install the fenced enclosure and will maintain the system thereafter and is responsible for providing wildlife water year around. The district Wildlife Manager will also periodically monitor the system to ensure it is in working order and will coordinate any needed repairs with the landowner.

PROJECT LOCATION:

The project site is located at the south base of Mt. Ballard in the Mule Mountains; T23S, R23E, Section 13. Bisbee, AZ - 7.5 minute quad. (see attached topo map)



LAND OWNERSHIP AT PROJECT SITE (Please state specifically if PRIVATE PROPERTY and provide landowner's name): The land at the project site is private property owned by Mike Powers.

IF PRIVATE PROPERTY, IS THERE A STEWARDSHIP AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT? Yes, Mike is currently working with the Arizona Game and Fish Department on a water project located on Phelps Dodge property. This project is funded and will also benefit both whitetail and mule deer by providing a permanent water source. Mr. Powers has historically and continues to allow hunting access on his private property, and has a very good relationship with area hunters and the Game and Fish Department.

HABITAT DESCRIPTION:

(revised 7-02-2007)

The well is located at the base of the south slope of Mt. Ballard, in the Mule Mountains. The elevation varies from the well site 5800', to the top of Mt. Ballard at 7370', the highest point in the mountain range. The habitat also varies due in the range of elevation, from Chirahuan Desert Scrub in the lower elevations below the site, to High Desert on up into Oak Woodlands in the upper elevations above the site. The majority of the mountain is composed of Escabrosa Limestone, with major drainages and canyons originating on each side of the mountain.

ITEMIZED USE OF FUNDS:

- Solar pump, 100 watt control box, wiring kit, solar panel and wiring kit, panel support structure =\$4,280.00.
- 1550 gallon polyurethane tank=\$1,135.00.
- 2'x2'x6' drinker and float kit=\$275.00.
- 240' fence and labor=\$500.00. (Match)
- Well test=\$500.00. (Match)
- Labor=\$2,310.00

Total Cost:\$9,000.00

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:

Arizona Game and Fish Department, Game Branch – Project submittal and provided funding for well test.
Arizona Game and Fish Department, Region V Game Specialist – review project proposal and comments.
Brad Fulk, Wildlife Manager U30B – coordinate project proposal with associated wildlife groups/associations landowner, and contractor. Monitor progress and file project completion report. Periodically check site for maintenance needs and water use by wildlife.
Mike Powers, Landowner – allow access onto property for project completion, hunter access, regular maintenance checks, and provide fencing materials and labor to install enclosure fence.
D&M Well Service – Contractor to provide materials and labor.

PROJECT MONITORING PLAN:

Brad Fulk-Wildlife Manager U30B will monitor the site as part of his regular district travels/duties and report to Mike Powers if any required maintenance is needed.

PROJECT MAINTENANCE:

Mike Powers, Landowner will be responsible for the future maintenance of the solar system.

PROJECT COMPLETION REPORT TO BE FILED BY:

Brad Fulk- Wildlife Manager U30B

WATER DEVELOPMENT PROJECTS (see attached worksheet):

TREE SHEARING (AGRA-AXE, PUSH) PROJECTS (see attached worksheet):

ARIZONA GAME AND FISH DEPARTMENT WATER DEVELOPMENT WORKSHEET

PROJECT NAME: Mt. Ballard Well

- 1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”** Yes
- 2) **Please list the Development Branch personnel and date coordinated with for this project.** NA
- 3) **What is the estimated annual inches of precipitation for the area? (mark one)**
 2-4 4-6 6-8 8-10 X 10-12 12-14 14-16 >16
- 4) **Is there a perennial water source available to big game within four miles of this project?**
 X YES (please complete #5 below) NO (skip #5 below)
- 5) **For the accessible, perennial water source nearest this project:**
Name of water source: Cowan Spring
Type of water source (catchment, spring, dirt tank, etc.): Spring
Ownership of water source: BLM
Distance in miles from project: 0.69 miles
- 6) **Is the target wildlife species a result of transplant efforts?** YES X NO
- 7) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument, etc). If private land, list landowner.** Mike Powers, Landowner
- 8) **Please provide the following information about access to the proposed site:**
Type of access (mark one): X 2x4 vehicles 4x4 only foot only**
**If foot access only: Distance in miles: Approx. hiking time:

-- Does access to this site require crossing private or tribal lands? X YES NO

-- Please describe any restrictions to public access: Locked Gate, sportsman's access granted.
- 9) **Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.** NA
- 10) **Was a site visit completed?** Yes X No
If Yes, please list personnel that attended and date.